

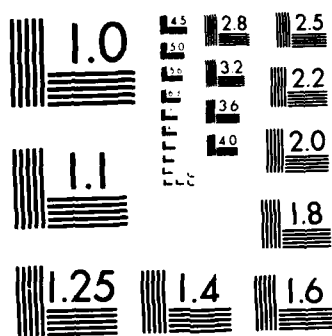
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AN ANALYSIS OF THE ECONOMIC ASSUMPTIONS UNDERLYING
FISCAL PLANS FY1981 - FY1984

by

Robert Welch Beck

June 1986

Thesis Advisor:

P. M. CARRICK

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REPORT DOCUMENTATION PAGE

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|---|-------|--|--|---|---------------------------|
| 1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED | | | 1b RESTRICTIVE MARKINGS | | |
| 2a SECURITY CLASSIFICATION AUTHORITY | | | 3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited. | | |
| 2b DECLASSIFICATION/DOWNGRADING SCHEDULE | | | 5 MONITORING ORGANIZATION REPORT NUMBER(S) | | |
| 4 PERFORMING ORGANIZATION REPORT NUMBER(S) | | | 7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School | | |
| 6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School | | 6b OFFICE SYMBOL (if applicable) Code 54 | | 7b ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000 | |
| 6c ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000 | | 8b OFFICE SYMBOL (if applicable) | | 9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER | |
| 3a NAME OF FUNDING/SPONSORING ORGANIZATION | | 8c ADDRESS (City, State, and ZIP Code) | | 10 SOURCE OF FUNDING NUMBERS | |
| | | | | PROGRAM ELEMENT NO PROJECT NO TASK NO WORK UNIT ACCESSION NO | |
| 11 TITLE (Include Security Classification) AN ANALYSIS OF THE ECONOMIC ASSUMPTIONS UNDERLYING FISCAL PLANS FY1981-FY1984 | | | | | |
| 12 PERSONAL AUTHOR(S) Beck, Robert W. | | | | | |
| 13a TYPE OF REPORT Master's Thesis | | 13b TIME COVERED FROM TO | | 14 DATE OF REPORT (Year, Month, Day) 1986 June | |
| | | | | 15 PAGE COUNT 69 | |
| 16 SUPPLEMENTARY NOTATION | | | | | |
| 17 COSATI CODES | | | 18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number) | | |
| FIELD | GROUP | SUB-GROUP | supply-side economics, Economic Recovery Program 1981, Fiscal Plans | | |
| | | | | | |
| 19 ABSTRACT (Continue on reverse if necessary and identify by block number) An analysis of the economic assumptions underlying fiscal plans FY 1981 - FY 1984 is described. The forecasts of President Reagan's Economic Recovery Plan are compared to the actual performance of the economy during the respective period. The paper concludes that the supply-side economic policies of President Reagan's plan were not adequately tested by the fiscal experience. However, some objectives of the recovery plan were achieved. | | | | | |
| 20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS | | | 21 ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED | | |
| 22a NAME OF RESPONSIBLE INDIVIDUAL Paul A. Garrick | | | 22b TELEPHONE (Include Area Code) 408-646-2939 | | 22c OFFICE SYMBOL 540a |

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An Analysis of the Economic Assumptions Underlying
Fiscal Plans FY 1981 - FY 1984

by

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Lieutenant, United States Navy
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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

An analysis of the economic assumptions underlying fiscal plans FY 1981 - FY 1984 is described. The forecasts of President Reagan's Economic Recovery Plan are compared to the actual performance of the economy during the respective period. The paper concludes that the supply-side economic policies of President Reagan's plan were not adequately tested by the fiscal experience. However, some objectives of the recovery plan were achieved.



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I. INTRODUCTION

In March, 1981, the Congressional Budget Office reported that a combination of rapid inflation, high unemployment, lagging productivity, and record high interest rates had battered the United States economy in 1980. In response to the poor economic performance, President Reagan presented his economic recovery plan to Congress, Appendix A, on February 18, 1981. In his address to Congress President Reagan stated that by 1986 double digit inflation would be cut in half, the American economy would produce 13 million new jobs, and the gross national product would grow at an annual rate of 4 to 5 percent. The President's plan contained four key elements:

- Reduce the growth of federal expenditures.
- Reduce taxes.
- Deregulate certain industries.
- Establish and maintain a strict monetary policy

President Reagan's plan was theoretically based upon a new wave of economic thinking, called "Supply-Side Economics". In general, the concepts postulated that stimulation of the productive elements of the economy would increase productivity and capital investment, thereby initiating an unprecedented expansion of the economy. Coupled with a restrictive monetary policy,

these supply-side policies were expected to reduce unemployment, reduce inflation, increase GNP growth, and balance the budget simultaneously.

A. RESEARCH PURPOSE

The purpose of this paper is to address the question: Have the supply-side economic policies of the Reagan administration been adequately tested by the fiscal experience, FY-1981 through FY-1984? The forecasts of Reagan's economic recovery plan will be compared to the actual economic performance of the respective years. Specifically this paper will compare various economic indicators and evaluate the success or failure of Reagan's policies within a generally accepted macroeconomic model.

B. SCOPE AND LIMITATIONS

The scope of analysis will be limited to an examination of the economic policies of the Reagan administration and the assumptions, forecasts, and actual outcomes of the federal budgets from FY-1981 through FY-1984. A significant limitation with respect to this type of analysis is the question, what if President Carter had been reelected? The outcomes of the Reagan policies are a matter of record whereas, the economic outcomes of a second Carter administration can only be estimated. Additionally, the economy is a huge and complex system

that does not change very quickly. The momentum of economic activity continues for varying lengths of time depending upon the strength and velocity of previous policies. As a result, the policies of the Carter administration affected the values of economic indicators especially during the first year of the Reagan administration.

II. BACKGROUND

Supply-side economics emerged as a new school of economic thought as a result of the performance of the economy in the mid 1970s. In 1975, unemployment was 3.5 percent despite a federal deficit of 45 billion dollars. Both figures increased from the 1974 levels of 5.6 percent unemployment and a 6 billion dollar federal deficit. According to conventional economic theory this should not happen because the existence of a large deficit should keep unemployment low [Ref. 1:p. 3]. Also, the simultaneous occurrence of economic stagnation and comparatively high rates of inflation during the 1970s characterized the United States as a stagflation economy [Ref. 2:p. 5]. Supply-side economics is more a cycle than an evolution in economic thought because it is nothing more than classical economics rediscovered [Ref. 1:p. 1]. Bartlett [Ref. 1:p. 3] credits Irving Kristol as being the first to draw attention to supply-side economics. In an article titled, "Toward a 'New' Economics?", May 9, 1977 edition of the Wall Street Journal, Kristol wrote:

In response to this crisis in the theory of economic policy a 'new' economics is beginning to emerge . . . Its focus is on economic growth, rather than economic equilibrium or disequilibrium, and it sees such growth arising from a free response (e.g., investment, hard work, etc.) to the economic incentives of a free market.

This 'new' economics is sometimes described, rather clumsily, as 'supply-side fiscal policy'. . . It arises in opposition to the Keynesian notion that an increase in demand, by itself, will increase supply and therefore accelerate economic growth. The 'new' economics asserts that an increase in demand, where the natural incentives to growth are stifled, will result simply in inflation. It is only an increase in productivity, which converts latent into actual demand by bringing commodities to market at prices people can afford, that generates economic growth.

Supply-side economics focus on the productive elements of the economy such as the supply of labor, the level of saving, and the level of investment. Supply-siders targeted these elements because of the productivity problem. Between 1950 and 1967 the average annual percentage increase in productivity averaged 2.4 percent. From 1972 to 1977 the increase averaged only 0.5 percent [Ref. 1:p. 5.]. Also, for the first time in United States economic history, there were three consecutive yearly declines in productivity; 1978, 1979, and 1980 [Ref. 3:p. 124]. This trend suggests the productive elements of the economy required stimulation.

A. THE MACROECONOMIC MODEL

Gross National Product is an aggregate measure of the goods and services produced by a nation and depends upon many factors. GNP may be measured by expenditure or by uses of income and is typically represented by the GNP identity [Ref. 4:p. 14].

$$(1.) C + I + G + (X - M) = GNP = C + S + T + R$$

C represents consumption; I is investment; G is government expenditures; X is exports; M is imports; S is saving; T is taxes; and R is transfers of foreign nationals. Eliminating the foreign component of the GNP identity will simplify the model without affecting its purpose in this paper. The new identity becomes [Ref. 4:p. 35]:

$$(2.) C + I + G = Y = C + S + T$$

In equation 2, Y represents income. This simplified identity is only a definition of GNP and says nothing about the behavioral relationships of the various components. Viewing the United States economy as a model will illustrate various interrelationships among selected economic variables. This paper will use the macroeconomic model developed by Tollen [Ref. 5:p. 7].

1. Consumption

For simplicity, this paper will define C as planned expenditure by individual households. Thus, consumption is represented by the equation:

$$(3.) C = C_0 + cY_d$$

C_0 represents a minimum amount of consumption regardless of exogenous factors. The term cY_d represents a component of consumption that depends upon disposable income. The coefficient c is positive and Y_d , disposable income, is defined by equation:

$$(4.) Y_d = Y - T$$

Thus, consumption will increase with an increase in disposable income.

2. Investment

Investment is represented by the equation:

$$(5.) I = I_0 - vr$$

In this model, r is the only interest rate and v is the marginal efficiency of capital. I_0 represents an independent level of investment. v is assumed to be greater than zero but carries a negative sign in the investment function. Therefore, the higher the interest rate the lower the level of investment.

3. Government Expenditure

In this model government expenditure is represented by the equation:

$$(6.) G = G^*$$

The asterisk signifies that government expenditure is a fiscal tool and may vary. It is considered an independent variable.

4. Gross National Product

GNP is defined as the summation of either side of equation 2. Increases or decreases in any component of the equation will affect GNP accordingly.

5. Saving

Saving represents the amount of income left over after consumption and taxes are deducted. It is represented by the equation:

$$(7.) S = Y - C - T$$

Increasing the level of saving will increase GNP. This is a definition of saving in the macro model. Behaviorally, the level of saving is a function of income and taxes and is represented by the equation:

$$(7A.) S = s(Y - t(Y))$$

6. Taxes

The level of taxes in this model is composed of two parts and is represented by the equation:

$$(8.) T = T^* + xY$$

The T^* represents that a portion of taxes are a fiscal policy tool. In the term xY , x is a positive number and represents the increase in tax revenue due to increases in GNP. This represents the progressive tax structure of the United States.

7. The Monetary Sector

The monetary sector of the model is represented by three equations:

$$(9.) M_d = M_0 + KY - mr$$

$$(10.) M_s = M^*$$

$$(11.) M_d = M_s$$

M_0 is the amount of money demanded without regard to income or the rate of interest. KY represents that the demand for money will vary directly with income or GNP. M_s is the supply of money and is equal to M^* which can be changed by the monetary authorities. M^* is a monetary policy tool. Equation 11 states an equilibrium condition. mr represents the inverse relationship between the demand for money and interest rates. The coefficient m is a positive number but carries a negative sign indicating that as interest rates rise, the demand for money falls.

This model contains three policy instruments which can be adjusted to influence the economy. Fiscal authorities can change government expenditure (G^*) or the tax level (T^*). Monetary authorities can change the supply of money (M^*).

3. The IS-LM Model

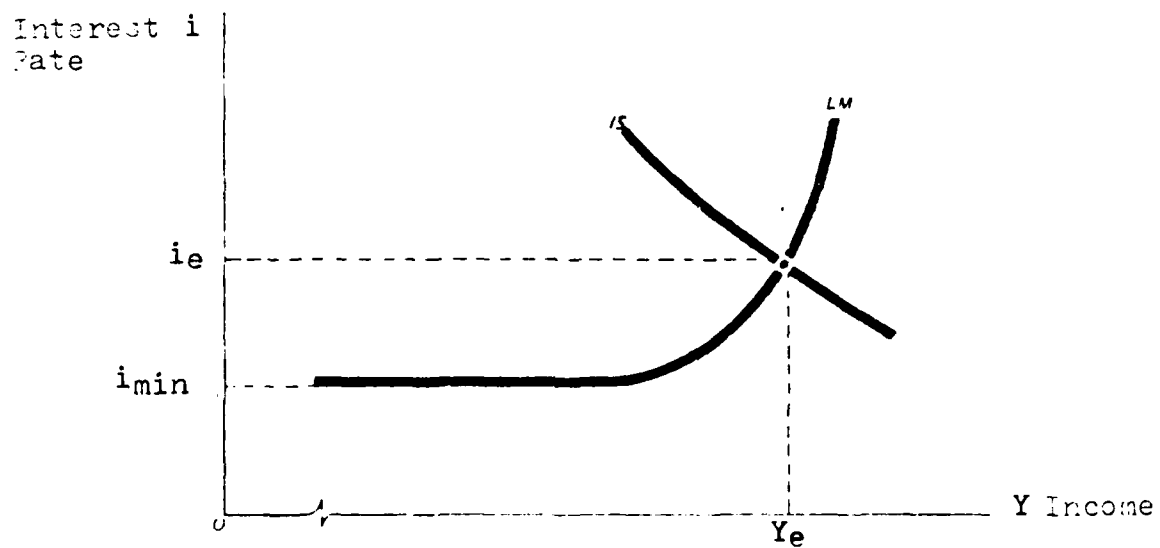
Within the context of the macroeconomic model, IS and LM curves, investment-saving and liquidity of money, provide a more sophisticated framework for an analysis of fiscal and monetary policies [Ref. 6:p. 127]. The IS curve represents points of equilibrium in the goods market and is derived from the investment and saving functions. It shows combinations of income and interest rates at which desired investment and saving are equal. The LM curve,

representing points of equilibrium in the financial market, shows combinations of income and interest rates at which the demand for money equals the quantity of money in the economy. The intersection of the IS and LM curves, Figure 1, defines the equilibrium point of interest rates and income in the economy. In particular, IS-LM analysis demonstrates the effects of fiscal and monetary policies on interest rates and the level of national income [Ref. 6:p. 126].

1. Multipliers

The relative effectiveness of fiscal and monetary policy depends upon the slopes of the IS and LM curves. The multiplier effect of the respective policy tools depends upon the initial position of the economy [Ref. 4:p. 94]. Changes in policy instruments can be combined in many different ways to achieve a desired macro equilibrium. It is important to realize that shifts in either the IS or LM curves produce a multiplier which determines the cumulative affect of fiscal or monetary policy changes.

By assuming equilibrium in the investment and saving sectors of the economy, the macroeconomic model defines a tax cut or increased government expenditure as equivalent fiscal tools. Hence, the change in income due to a change



The equilibrium interest rate and income are determined simultaneously at the intersection of the IS and LM curves.

Figure 1 The IS-LM Curves.

in fiscal policy may be defined by equation 12 where q equals $1/s$, the multiplier associated with the marginal propensity to save.

$$(12.) \quad dY/dg = q$$

This indicates that the total impact of an expansionary fiscal policy will be a multiple of the initial amount. As the IS curve shifts to the right, the economy moves along the LM curve. The increase in interest rates will cause a reduction in investment demand. The net effect depends upon the slopes of the IS and LM curves and the absolute shift of either or both curves as determined by the multiplier.

In the case of a change in monetary policy, an increase in the money supply will shift the LM curve out. This excess supply of money will reduce interest rates and consequently stimulate investment demand. The ratio of the increase in income due to the rise in investment is the multiplier defined in equation 13 [Ref. 4:p. 92]:

$$(13.) \quad dY/dI = b$$

The change in investment resulting from a drop in interest rates is subject to a multiplier defined in equation 14.

$$(14.) \quad dI/dr = c$$

Once again, the total impact of the monetary policy change depends upon the slopes of the IS and LM curves and the actual shifts resulting from the multipliers.

2. The Failure of Demand Management

As evidenced by the fiscal experience of the late 1970s, the demand management policies of the federal government were unable to promote economic prosperity. The traditional economic model, from which policies were formulated, did not include some supply-side considerations. Inflation, productivity, wage rates, and tax rates were perhaps more important in stimulating economic growth than previously realized.

III. ANALYSIS

A. INFLATION

Reducing inflation was one of the objectives identified during President Reagan's address to Congress on February 18, 1981. Furthermore, the President said inflation had reduced our prospects for economic growth and attributed the current high inflation to excessive government spending and an overly accommodative monetary policy [Ref. Appendix A]. The Reagan plan proposed specific decreases in budget outlays and a restrictive monetary policy as a means to reduce inflation.

1. Government Spending and Inflation

In the macroeconomic model, government spending is a fiscal tool that can stimulate the economy to full employment equilibrium. If government spending is in excess of that required to achieve full employment, the resulting stress on the economy can induce inflation [Ref. 4:p. 174]. Actual government spending more than doubled from 1974 to 1980, but, unemployment increased from 5.5 to 7 percent, considerably less than full employment. In response, President Reagan proposed a program of budget restraint that would reduce federal outlays as a percent of GNP from 23 percent in 1981 to 19.3 percent

In 1984 [Ref. Appendix A]. Actual outlays as a percent of GNP from 1981 through 1984 were 23.5, 24.5, 25.1 and 23.6 respectively [Ref. Appendix B].

2. Monetary Policy and Inflation

The macroeconomic model establishes the supply of money as a policy tool that is controlled by monetary authorities. In the United States, the Federal Reserve Board administers monetary policy and functions somewhat independently. The Fed can change the supply of money in ways to support their view of the appropriate amount of money with respect to economic conditions. This paper will define the supply of money as M1: the sum of currency, demand deposits, travelers' checks, and other checkable deposits.

Excessive growth in the money supply can induce inflation. Excess demand resulting from increased investment will raise price levels [Ref. 4:p. 177]. President Reagan's recovery plan desired a monetary policy that would reduce the rate of money and credit growth down to levels consistent with noninflationary expansion of the economy [Ref. Appendix A].

M1 grew at annual rates of 8.1 and 8.3 percent in 1977 and 1978. In 1979 and 1980, the growth of M1 slowed to 7.2 and 6.6 percent respectively [Ref. Appendix B]. This change from increasing to decreasing growth rates coincided

with the appointment of Paul Volcker as Chairman of the Federal Reserve Board. In 1979 the Fed had already established a restrictive monetary policy as indicated by the growth in M1. Volcker restricted the growth of M1 by increasing the federal funds rate up to 15 percent and then to a peak of over 17 percent [Ref. 7:p. 33]. A restrictive monetary policy continued through 1981 with an annual growth rate in M1 of 6.5 percent [Ref. Appendix B]. In response to the 1981-1982 recession, the Fed eased monetary policy in mid 1982 in an attempt to stimulate a recovery. M1 grew at a rate of 3.3 percent in 1982 and 9.3 percent in 1983 in support of a strong economic recovery. In 1984, M1 was reduced to a 5.8 annual percentage growth rate.

3. The Inflation Rate

Assuming a restrictive monetary policy and reduced government expenditures as a percent of GNP, the Reagan plan forecast decreasing annual inflation rates for 1981 through 1984 at 11.3, 8.3, 6.2, and 5.5 percent [Ref. Appendix B]. Actual disinflation, as measured by the Consumer Price Index, occurred at a much faster rate despite increases in government spending as a percent of GNP. Actual inflation rates were 8.9, 3.9, 3.8 and 4.0 percent. This dramatic decline started from a rate of over 12 percent in 1980.

4. The Phillips Curve

During President Carter's administration, the traditional policies of demand management failed to reduce inflation without causing widespread unemployment. The tradeoff between inflation of wages and unemployment was illustrated by A.J. Phillips in what is now commonly known as the "Phillips Curve," Figure 2. Phillips found that British observations from 1861 to 1957 traced out a smooth, curved relationship between changes in money wages and the unemployment rate [Ref. 6:p. 331]. In the late 1970s, the simultaneous high rates of inflation and unemployment indicated that the Phillips Curve had shifted to a less favorable position where the tradeoff was between a higher rate of inflation and a higher rate of unemployment.

5. Praise and Criticism

The anti-inflation objective of the Reagan plan appears to be a dramatic success. The inflation rate was cut in half by 1983, three years prior to the forecasted date. Also, Palmer [Ref. 3:p. 31-32] indicated that although the short-run costs of reduced inflation were higher unemployment and slower economic growth, the long-run benefits seem to be permanent and not a reflection of the downward swing of the business cycle.

Critics of the Reagan plan argue that the use of a restrictive monetary policy to cause a sharp disinflation

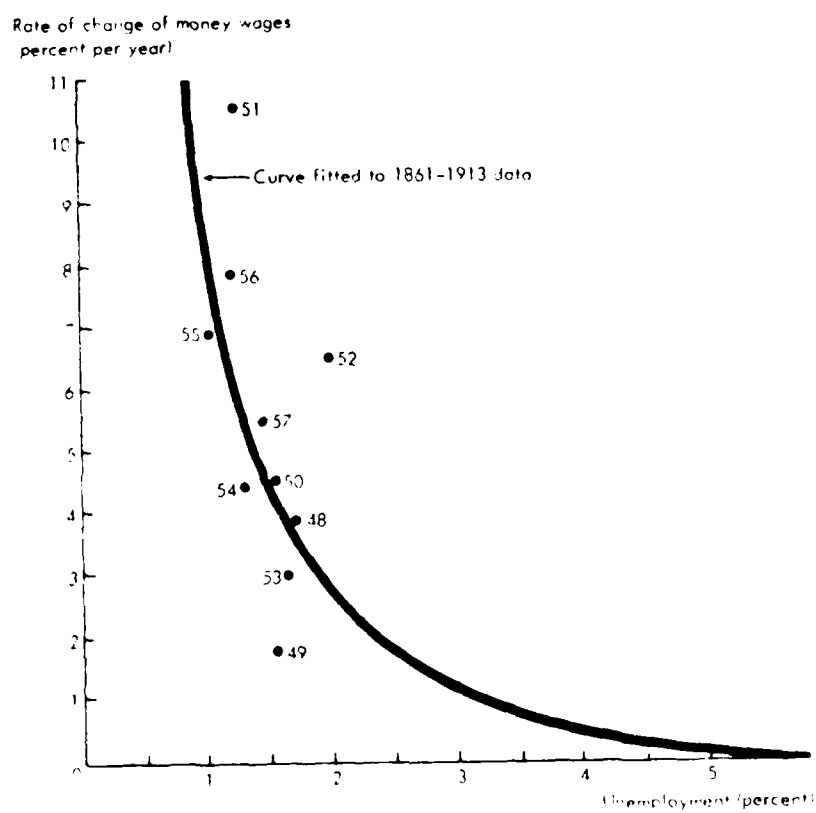


Figure 2 The Phillips Curve.

was a disaster. They contend it reduced investment, raised deficits, and raised unemployment. Evidence concerning the real cost of disinflation is mixed and not conclusive. Fellner [Ref. 9:p.13] concludes that wage behavior data suggest a somewhat greater rate of disinflation per unit of unemployment occurred from 1981 through 1983. This supports the "Credibility Hypothesis" as described by Nordhaus [Ref. 10:p. 254].

Having a tough guy in the White House-perhaps encouraging an even tougher guy at the Fed-causes inflation to decline more quickly and at less economic cost than it would simply on the basis of the given path of unemployment and capacity utilization.

Contrary to Fellner, Summer's paper indicates that the cost of disinflation as measured using wages or prices was not reduced more rapidly as a result of the credibility hypothesis. The rapid disinflation was normal given the severity of the recession and the sharp appreciation in exchange rates of the dollar compared to major trading currencies [Ref. 7:p. 135].

3. Taxes

Reducing taxes was one of the four key elements of Ronald Reagan's economic recovery plan. This objective was fundamentally based upon the precept that high taxes had seriously eroded incentives to work, save, and invest [Ref. Appendix A]. The Reagan plan proposed an across the board reduction of marginal tax rates for individuals by 10

percent per year for three years starting July 1, 1981. The plan also included a business tax cut by establishing generous depreciation allowances via the Accelerated Cost Recovery System. [Ref. Appendix A]. Actual personal income tax rate reductions ultimately totaled 23 percent vice the proposed 30 percent [Ref. 10:p. 93].

1. Incentive to Work

The supply of labor is one of the most basic elements of an economy and constitutes one of the determinants of productivity. By reducing personal tax rates 23 percent, President Reagan hoped to reduce the tax disincentive to work and affect an increase in the supply of labor. Double digit inflation of the late 1970s had increased individual tax rates by pushing nominal incomes into higher tax brackets. This phenomenon, known as bracket creep, reduces disposable income and effectively shifts a consumer's preference towards more leisure and less work [Ref. 4:p. 129]. This result is illustrated in Figure 3. An increase in the wage rate, due to a tax cut, will shift the budget line from W_0H to W_1H . As the budget line shifts upward, points of tangency are achieved on higher utility curves. The dashed line, HH , connects the points of tangency between the individual's utility curves and the various budget lines and represents the individual's labor-supply curve. As income (Y) increases, leisure (S) decreases.

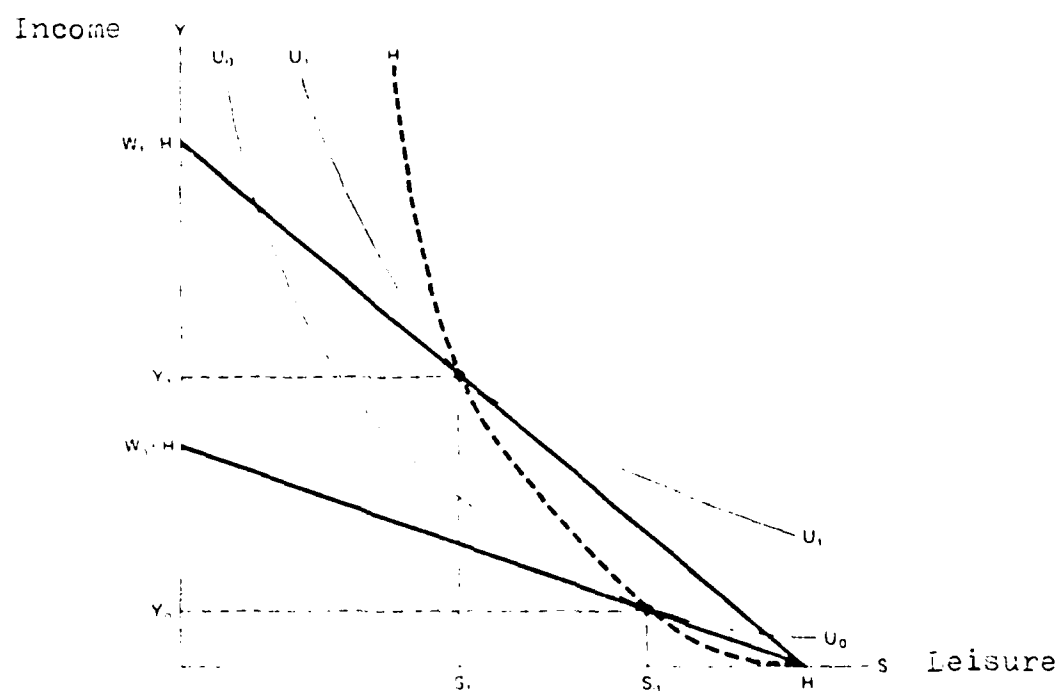


Figure 3 The Work Leisure Decision.

Although the civilian labor force participation rate increased from 63.8 to 64.4 percent from 1980 to 1984, this rate shows a steadily increasing trend since 1966 [Ref. 11:p. 294]. This trend is primarily the result of increased female participation in the labor force. From 1966, the labor force participation rate of women increased from 40.3 percent to 52.9 percent in 1983. During the same time period, the male labor force participation rate decreased from 80.7 percent to 76.4 percent [Ref. 12:p. 24].

2. The Supply of Labor

This paper will define the supply of labor as the sum of people employed and those officially counted as unemployed. After the final Reagan tax cut had been implemented in 1983, the total number of people employed had risen by 1.6 million or 1.59 percent compared to the 1980 level [Ref. 12:p. 11]. Also, unemployment had increased by 2.5 percent or approximately 2.5 million people. Although the supply of labor increased by 4.1 million people during the tax cut time period, there is little evidence directly crediting the increase to the tax cuts. Haveman [Ref. 10:p. 120] estimates that a "reasonable best guess" of the labor-supply response to the Reagan program would be on the order of 1.5 percent, approximately 1.5 million people. This explains less than half of the

increase in the labor force. Haveman further qualifies the estimates of his study by stating, "These estimates, it must be emphasized are rough, and must be interpreted with caution." Very little evidence was discovered linking the increase in the supply of labor to the Reagan tax cuts.

3. Incentive to Save

The Reagan tax cut was also intended to increase saving by increasing net income. As defined in equation 7A, saving is a function of income minus taxes. In addition, a number of special incentives for saving, such as liberalization of Keogh plans, IRA's and "All-Savers Certificates," were established by the administration [Ref. Appendix A]. This was intended to reverse the trend of declining saving rates as a percentage of disposable income. This rate had declined from an average of 7.3 percent from 1971 through 1975 to an average of 5.2 percent from 1976 through 1980 [Ref. 1:p. 35]. From 1981 through 1984, after the Reagan tax cuts had been implemented, the average saving rate of personal income increased to 5.37 percent [Ref. 13:p. 51]. On a yearly basis, this rate increased from 5.8 percent in 1980 to 6.6 percent in 1981. This was followed by two consecutive yearly declines in the saving rate to 5.8 percent in 1982 and 5.0 percent in 1983. In 1984 the saving rate increased to 6.1 percent.

4. Incentive to Invest

The Reagan plan proposed an incentive to increase investment in production and job creation via faster depreciation schedules of new factories and production equipment [Ref. Appendix A]. This incentive was implemented in 1981 as the Accelerated Cost Recovery System. In general, increases in the level of investment did not occur as expected. Figure 4 shows gross private domestic investment declined from mid 1981 to the end of 1982. The decreases in investment coincided with the 1981-1982 recession. Although the Accelerated Cost Recovery System provided a real incentive for businesses to increase investment, other economic factors temporarily negated the incentives of the system.

5. The Laffer Curve

Whereas President Carter believed a balanced budget was possible primarily through fiscal restraint, Ronald Reagan used supply-side economics to explain how the budget would be balanced even with his proposed tax cut. Theoretically, the rapid expansion of the economy, initiated by the tax cut, would ultimately increase tax receipts by increasing the tax base. This was also part of Reagan's objective of getting big government off the backs of the people.

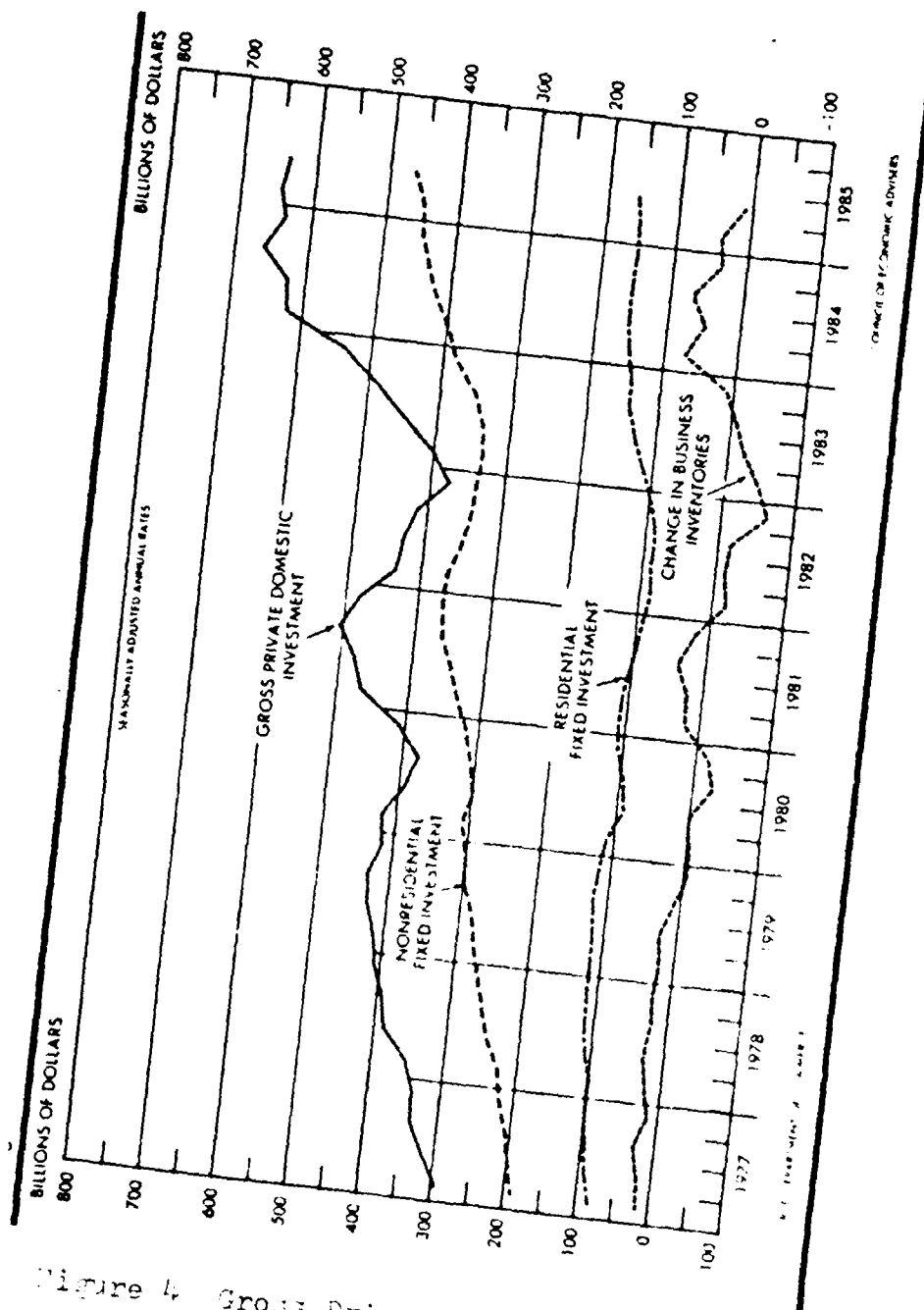


Figure 4 Gross Private Domestic Investment.

A significant question with respect to tax revenue is whether tax rates were too high. The Laffer Curve, Figure 5, illustrates a theoretical relationship between tax rates and total tax revenue. The curve behaves in a manner such that there is an optimum tax rate at which tax revenues will be maximized. Beyond this point, as the tax rate increases, total tax revenue decreases. This area is called the prohibitive region and illustrates the limitation of taxation as an ultimate fiscal tool. Historically, there is no strong evidence to suggest that the United States tax structure has ever been in the prohibitive region on a macro level. Although tax cuts have never been self-financing within the first year, the Kennedy tax cuts revealed that certain regions of a tax cut can be self-financing.

6. The Kennedy Tax Cuts

The Reagan tax cut of 1981 was remarkably similar to the Kennedy tax cuts of 1962 and 1964. Both plans reduced the personal income and corporate tax rates and were criticized as being fiscally irresponsible. The Kennedy tax cut averaged a twenty percent reduction in every personal income tax bracket and was phased in over a three year period. Additionally, the corporate tax rate was reduced from 52 percent to 47 percent [Ref. 1:p. 115].

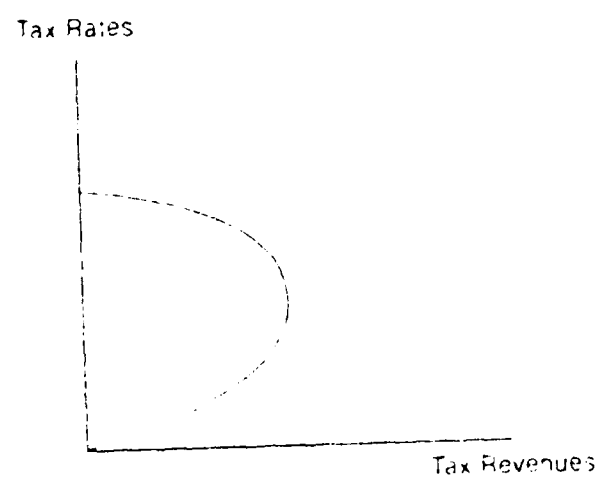


Figure 5 The Simple Laffer Curve.

Following the enactment of the Kennedy tax cut, the economy experienced a greater than normal expansion of real economic activity. A comparison of economic activity before 1961 and after enactment of the tax cut, 1966, indicates that unemployment declined from 6.7 percent to 3.8 percent and capacity utilization, as measured by the Federal Reserve Board, increased from 77.3 percent to 91.9 percent. Also, during this period, real GNP grew at an average annual rate of 5.9 percent [Ref. 14:p. 19]. It should be noted that from 1965 on, Bartlett [Ref. 1:p. 121] discounts the stimulative effects of the Kennedy tax cuts due to excessive government spending and increases in the quantity of money.

An examination of the tax revenue data from this time period reveals some interesting facts. As a result of the tax cuts, total tax revenue declined suggesting tax rates were in the normal range of the Laffer Curve. However, total tax revenue from individuals earning more than 100,000 dollars actually increased, suggesting this particular region of the tax structure had been in the prohibitive region on the Laffer Curve [Ref. 14:p. 20].

Although the total revenue impact of a tax cut is negative in the short-run, controversy exists as to whether a tax cut is self-financing in the long-run. Several studies indicate that the Kennedy tax cuts were

indeed self-financing as evidenced by the testimony of Walter Heller before the Joint Economic Committee in 1977: "Did it pay for itself in increased revenues? I think the evidence is very strong that it did."

C. Monetary Policy

The Federal Reserve independently administers monetary policy in the United States. The Fed normally uses three policy instruments to adjust the supply of money; open-market operations, the discount window, and the reserve ratio [Ref. 4:p. 274]. Each policy instrument adjusts the supply of money through different market mechanisms and ultimately affect interest rates. As defined by equations 9 and 11, the interest rates have an inverse and direct relationship to the money supply. In addition, within the context of the macroeconomic model, only a single interest rate is assumed to exist.

1. Monetary Policy and Interest Rates

Monetary policy and interest rates are significant with respect to economic growth because they affect the level of investment. This relationship is represented by equation 5. An overly restrictive monetary policy will produce lower levels of investment as a result of high interest rates. This poses the question: Did the Fed's monetary policy support President Reagan's economic recovery plan? Three-Month Treasury Bill rates were forecasted in

the Reagan plan to decline from 11.1 percent in 1981 to 7.0 percent in 1984. Actual rates for 1981 through 1984 were 14.1, 10.7, 8.6, and 9.6 percent [Ref. Appendix B]. During that time period, the actual interest rate averaged more than 2 percent higher than those forecasted.

2. Interest Rates and Investment

According to the Reagan doctrine of 1981, financial markets would rally and an immediate plunge in interest rates would initiate the recovery cycle [Ref. 7:p. 25]. In particular, capital investment was expected to be a major factor contributing to the recovery due to the implementation of the Accelerated Cost Recovery System.

The plunge in interest rates did not occur in 1981 as expected. In fact, long-term interest rates rose from 9.6 percent in 1979 to an average of 14.7 percent in the first half of 1982 [Ref. 7:p. 157]. A significant decline in interest rates did not occur until the Fed eased its restrictive monetary policy in 1982. Continued high real rates of interest discouraged investment through 1981 and also made U.S. markets attractive to foreign investment. This resulted in the increase in value of the U.S. dollar relative to other currencies and increased the unfavorable affects upon investment of the steel and other industries already experiencing strong competition from international markets [Ref. 3:p. 71].

One reason the Reagan business tax cuts failed to stimulate investment was the five-percent increase in long-term interest rates. This increase effectively negated the incentives of the Accelerated Cost Recovery System. The introduction of ACRS provided an additional nine billion dollars to corporations in FY 1982 and would have produced more in the following years: 17 billion in 1983 and 23 billion in 1984. Evans [Ref. 7:p. 153] estimates that the five percentage point increase in the long-term interest rate was responsible for decreasing investment by 25.5 billion dollars. This estimate is supported by the fact that fixed business investment declined 17 billion dollars from implementation of the tax cut through early 1983 [Ref. 7:p. 157].

3. Monetary Policy and Unemployment

Most economists will agree that a consequence of a restrictive monetary policy is a higher rate of unemployment. With the unemployment rate at 7.5 percent in 1981, the prospects of a restrictive monetary policy made the issue politically sensitive. The Carter administration had viewed unemployment as a top economic priority and had been very responsive in implementing programs to keep unemployment as low as possible. The Reagan plan dismissed the precept that a restrictive monetary policy would increase unemployment by maintaining that a rapid expansion

of the economy would occur and absorb any adverse effects. In 1981, instead of an economic boom, a recession occurred and unemployment reached 9.7 percent in 1982 [Ref. 3:p. 358].

D. Government Spending

The Reagan plan was especially critical of the "uncontrolled growth" of government spending [Ref. Appendix A]. The plan attributed the high sustained rate of inflation to an overly expansive fiscal policy and established reductions in the growth rate of government spending as a central goal. The actual level of federal outlays from 1981 through 1984 support the success of the administration in achieving this goal. In 1980, government spending increased by more than 17 percent from the previous year [Ref. 15:p. H-4]. Figure 6 illustrates the successive yearly declines in the growth rate of federal spending during President Reagan's first term in Office.

The proposed shift in federal spending toward defense and away from domestic programs was justified as a re-assignment of budget priorities to reflect the true responsibility of the Federal and State governments [Ref. Appendix A]. Although defense spending increased substantially, the actual level of proposed domestic budget cuts was less than planned. This is evidenced by the fact that federal spending as a percent of GNP was not reduced as previously noted in this paper.

Federal Outlays

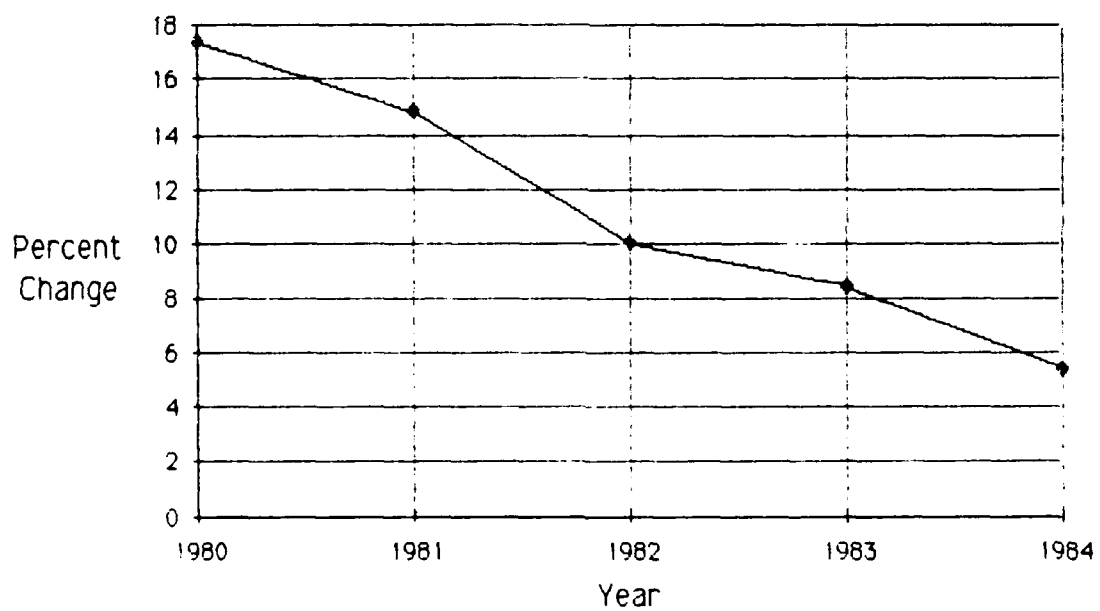


Figure 6 Growth Rate of the Federal Budget.

1. The Full-Employment Budget Concept

A major policy conclusion of Keynesian economics is that expansive fiscal policy-in the form of either additional government spending or a tax cut-is the appropriate response to conditions of slack demand and unemployment [Ref. 6:p. 87]. This is represented in the macroeconomic model by equations 6 and 8. The Reagan plan proposed that the tax cuts would offset the negative impact on unemployment resulting from a reduction in government spending via accelerated economic growth [Ref. Appendix A]. In actuality, government spending continued to increase at a decreasing rate while the proposed tax cuts were implemented. The plan had forecasted yearly declines in the unemployment rate from 7.8 percent in 1981 to 6.4 percent in 1984 [Ref. Appendix B]. Actual unemployment rates for 1981 through 1984 averaged 7.5, 9.5, 9.5, and 7.4 percent respectively. A meaningful analysis of the affect of the Reagan tax cuts upon the unemployment rate is not feasible due to the strong influence of the 1981-1982 recession.

2. Government Spending and GNP Growth

GNP growth may be measured in a variety of ways. This paper will use yearly percentage change measured in 1972 dollars. This adjusted figure provides a measure of the growth of real output through time and is perhaps the

single best measure of economic performance. The long range economic forecasts of GNP growth in the federal budgets from 1931 through 1934 range from 3.7 to 5.6 percent with a mean value of 4.2 percent. These forecasts indicate the optimistic attitude that the administration would promote economic prosperity in the long-run.

The Reagan plan sought to reduce government spending primarily for two reasons. First, reduced spending would reduce deficits. Second, reduced spending would reduce the ever-large share of economic resources being consumed by the government [Ref. Appendix A]. The plan further believed that government spending had reached a level where private spending was being displaced thus introducing inefficiencies into the economy. This result is commonly known as the crowding out effect [Ref. 6:p. 35]. With respect to real GNP growth, the Reagan policy of reducing government expenditure to stimulate economic growth cannot be evaluated since government spending was not reduced to the extent proposed. In addition, research discovered no method or evidence to either verify or reject this precept.

E. Deficits

Deficit reduction was a high priority in the Reagan economic recovery plan. It even forecasted decreasing deficits from 54.5 billion dollars in 1981 to a budget

surplus of 0.5 billion dollars in 1934 [Ref. Appendix A]. Actual budget deficits from 1931 through 1934 totaled almost 600 billion dollars [Ref. 16:p. 9.50]. Why Ronald Reagan, one of the most conservative presidents in recent history, would allow such large deficits to exist is an enigma. Although many factors contributed to the record deficits, comment on the budget system will provide meaningful background.

1. The Fundamental Problem

The fundamental problem of persistent deficits is rooted in the pro-spending bias of legislative politics [Ref. 17:p. 365]. This bias permeates the budget process in several ways. First, members of Congress are motivated by two strong desires: to secure reelection by serving their constituents and to develop a personal power base in Congress. As a result, members often propose additional expenditures to benefit their constituents and form political alliances with other members to ensure their proposals are passed. Second, expertise on budgetary matters is vested within budget committees and subcommittees. Consequently, the jurisdiction of these committees is seldom challenged. The overall effect is an incremental budget system that continually adds new programs and seldom abolishes existing programs.

2. The Reagan Deficit Legacy

Although the United States has not carried a budget surplus since 1969, the Reagan deficit legacy is infamous. Once considered primarily a political problem, huge budget deficits are now recognized as a real economic problem [Ref. 17:p. 43].

In 1981 the federal deficit was 78 billion dollars. This amount was not significantly greater than some of the deficits experienced during the last half of the 1970s. In 1983 the deficit increased to over 200 billion dollars. This large increase in the deficit can be attributed primarily to two factors. First, the proposed domestic spending cuts were not achieved and thus the increase in the defense budget represented a real increase in government spending. Second, the 1981-1982 recession caused the Reagan administration to overestimate tax receipts and underestimate domestic spending and the deficit. Whereas federal spending increased by approximately 130 billion dollars from 1981 to 1983, federal revenue increased by only 1.2 billion dollars and total tax receipts decreased by 21 billion dollars [Ref. Appendix 3]. In 1984, the 6.8 percent GNP growth rate appears to have expanded the tax base since personal and corporate tax receipts increased by 27 billion dollars [Ref. Appendix 3]. Nevertheless, the 1984 deficit totaled over 185 billion dollars.

As previously established, additional government expenditures will normally increase GNP and decrease unemployment. The large budget deficits experienced during President Reagan's first term in Office question the validity of his supply-side policies. Furthermore, deficits of these magnitudes have undermined the credibility of supply-side policies with respect to GNP growth and unemployment.

3. The Economic Significance of Large Deficits

The unprecedented 200 billion dollar a year deficit level experienced during the Reagan administration prompted questions regarding their impact upon the economy. Gramlich [Ref. 17:p. 43] proposes a convincing reason why deficits should be feared:

Deficits represent government dissaving, and unless offset by increases in private saving or capital imports from abroad, deficits imply a lower proportion of output devoted to capital formation. This situation implies reduced long-term growth in the supply of capital, and hence in future output and consumption levels.

Controversy exists as to whether deficits actually represent a trade off between present and future consumption. If deficits are offset by increased personal saving or capital imports, then the economic implications of large deficits are not so ominous.

IV. CONCLUSIONS

In 1981 President Reagan stated that by 1986 double digit inflation would be cut in half, the American economy would produce 13 million new jobs, and GNP would grow at an annual rate of 4 to 5 percent. In 1986, inflation is less than 4 percent, the economy employs 9 million more people, and GNP is estimated to be growing at an annual rate of 3.2 percent [Ref. 18:p. 11]. Furthermore, the four key elements of the Reagan plan were implemented. The growth rate of federal expenditures declined, taxes were reduced, some industries were deregulated, and the Federal Reserve Board has maintained a strict monetary policy. Despite the apparent success of the Reagan plan, this paper concludes that the supply-side policies of the Reagan administration were not adequately tested by the fiscal experience FY-81 through FY-84. This conclusion is based upon the analysis that the improvements in the economy were not achieved through the supply-side market mechanisms postulated by the Reagan administration.

Evaluation of the success or failure of President Reagan in promoting an economic recovery is difficult due to the extent of presidential control over both fiscal and monetary policy. President Reagan's control over fiscal policy is somewhat limited. This results from the fact

that over half of the federal budget is uncontrollable due to entitlement programs and other expenditure categories deemed mandatory. Final levels of federal expenditures are determined through political interaction between Congress and the Executive Office. With respect to monetary policy, the Federal Reserve Board administers policy independent of the Executive Office.

In actuality, the President possesses very little absolute power with respect to the budget process and therefore must augment his power through political influence. President Reagan has been extremely influential as evidenced by the successful implementation of the elements of his economic program and the increases in defense spending. Although the failure to achieve the desired domestic budget cuts contributed to record deficits, President Reagan has succeeded in stonewalling most of the pressure for tax increases.

The anti-inflation objective of the Reagan administration is one of the tangible successes of the program. The inflation rate declined at a much more rapid rate than anticipated and has remained at or below 4 percent through 1985 and into 1986. Maintaining such a policy is somewhat politically unpopular since the results are often manifested in higher rates of unemployment and slower economic growth. The success of the Reagan administration in

reducing inflation underscores the importance of the federal government in managing the economy at a macro level. However, exogenous factors contributed to the apparent success of the Reagan plan in reducing inflation. The severity of the 1981-1982 recession and declining world oil prices aided the disinflationary trend.

The success of the Reagan administration in reducing federal expenditure is marginal. Although the administration did achieve the objective of reducing the growth rate of government spending, total outlays, as a percent of GNP, averaged almost three percent higher than those proposed in 1981. This three percent difference may be attributed to two events. First, the 1981-1982 recession slowed GNP growth. Secondly, proposed domestic budget cuts were not achieved and thus represent a failure of fiscal discipline. Consequently, the precept that reduced government expenditure as a percentage of GNP would contribute to disinflation was not sufficiently tested by the fiscal experience.

Attainment of the objectives of the Reagan plan to increase the incentives to work, save, and invest was not evident from the analysis of the data. Increased incentives were expected to result from a reduction in personal income tax rates and introduction of the Accelerated Cost Recovery System. Personal tax rate reductions ultimately

totaled 23 percent and were intended to increase saving and work effort by increasing disposable income. The saving rate did show a modest increase of .67 percent from 1981 to 1984. Even at 5.87 percent, the rate was far below the 7.3 percent rate of the early 1970s and demonstrated considerable fluctuation coinciding with the 1981-1982 recession. The labor force participation rate also showed a modest increase of 0.6 percent from 1981 to 1984 but cannot be credited to the Reagan plan. The total labor force participation rate has demonstrated a steady and increasing trend since 1966. In fact, from 1981 through 1984, the male labor force participation rate declined slightly while the female rate continued to increase. The overall increase in the total labor force participation is due to the increased entry of female workers into the labor market.

The increase in investment resulting from the Accelerated Cost Recovery System failed to materialize. Gross private domestic investment declined from mid 1981 to the end of 1982. Also, fixed business investment declined 17 billion dollars from implementation of the system through early 1983. It should be noted that the levels of saving and investment are particularly sensitive to economic fluctuations and trends. Thus, the 1981-1982 recession undoubtedly had a strong influence on these levels and

consequently undermined the anticipated affects of President Reagan's supply-side policies.

The restrictive monetary policies of the Federal Reserve Board, generally supported by the Reagan administration, appear to have been overly restrictive compared to the optimal policy of money and credit growth consistent with noninflationary expansion. Interest rates were constantly higher than those proposed in the Reagan plan of 1981. This directly contributed to somewhat lower levels of investment and slower economic growth. As previously noted, monetary policy is autonomously administered by the Federal Reserve Board. Therefore, evaluation of various elements of the Reagan recovery plan must take into consideration the existence of an independent and possibly contradictory monetary policy. Furthermore, the policies of the Federal Reserve Board have considerable influence in international markets which this paper has not addressed.

Finally, the Reagan deficit legacy had undermined the credibility of supply-side economic policies. Was the recovery from the 1981-1982 recession a result of supply-side policies or of an excessive fiscal stimulus which left deficits totaling 600 billion dollars from 1981 through 1984? These deficits were well in excess of those normally incurred during periods of recession.

The recovery from the 1981-1982 recession was very strong. The stagflationary trend of the 1970s had been broken. Inflation remained below 4 percent while GNP growth reached 6.8 percent in 1984. However, the improvement in the economy was not achieved according to the Reagan plan. Thus, this paper cannot conclude that the supply-side policies were adequately tested by the fiscal experience. This conclusion implies nothing regarding the validity of supply-side economic policies; only that they were not adequately tested within the scope of this paper.

APPENDIX A

PROGRAM FOR ECONOMIC RECOVERY

White House Report (Edited)

February 18, 1981

I. A PROGRAM FOR ECONOMIC RECOVERY

Today the administration is proposing a national recovery plan to reverse the debilitating combination of sustained inflation and economic distress which continues to face the American economy. Were we to stay with existing policies, the result would be readily predictable: a rising government presence in the economy, more inflation, stagnating productivity, and higher unemployment. Indeed, there is reason to fear that, if we remain on this course, our economy may suffer even more calamitously.

The benefit to the average American will be striking. Inflation, which is now at double digit rates, will be cut in half by 1986. The American economy will produce thirteen million new jobs by 1986, nearly three million more than if the status quo in government policy were to prevail. The economy itself should break out of its anemic growth pattern to a much more robust growth trend of four to five percent a year. These positive results will be

accomplished simultaneously with reducing tax burdens, increasing private savings, and raising the living standards of the American families.

The plan consists of four parts:

- 1) a substantial reduction in the growth of federal expenditures
- 2) a significant reduction in federal tax rates
- 3) prudent relief of federal regulatory burdens
- 4) a monetary policy on the part of the independent Federal Reserve System which is consistent with those policies.

These four complementary policies form an integrated and comprehensive program.

The leading edge of our program is the comprehensive reduction in the rapid growth of federal spending. Our budget restraint is more than cosmetic changes in the estimates of Federal expenditure.

The second element of this program, which is equally important and urgent, is the reduction in federal personal income tax rates by ten percent a year for three years in a row. Closely related to this is an incentive to greater investment in production and job creation via faster tax write-offs of new factories and production equipment.

The third key element of our economic expansion program is an ambitious reform of regulations that will reduce the government-imposed barriers to investment, production, and employment.

The fourth aspect of this comprehensive economic program is a monetary policy to provide the financial environment consistent with a steady return to sustained growth and price stability. Thus, a predictable and steady growth in the money supply at more modest levels than often experienced in the past will be a vital contribution to the achievement of the economic goals described in this report.

II. THE TWIN PROBLEMS OF HIGH INFLATION AND STAGNANT GROWTH

The policies this Administration is putting forward for urgent consideration by the Congress are based on the fact that this nation now faces its most serious set of economic problems since the 1930s. Inflation has grown from one to one and a half percent a year in the early 1950s to about thirteen percent in the past two years; not since World War I have we had two years of back-to-back, double-digit inflation. At the same time, the rate of economic growth has been slowing, and the unemployment rate creeping upward. Productivity growth, the most important single measure of our ability to improve our standard of living, has been declining steadily for more than a decade. In the past three years, our productivity actually fell.

The most important cause of our economic problems has been the government itself. The Federal government, through tax, spending, regulatory, and monetary policies, has

sacrificed long-term growth and price stability for ephemeral, short-term goals. In particular, excessive government spending and overly accommodative monetary policies have combined to give us a climate of continuing inflation. That inflation itself has helped sap our prospects for growth.

The federal government has greatly contributed to the persistence of high inflation. Overly stimulative fiscal and monetary policies, on average, have financed excessive spending and thus pushed prices upward. Since government accommodation is widely expected to continue, inflation has become embedded in the economy. Productivity, popularly measured as output-per-worker-hour, is an indicator of the efficiency of the economy and, consequently, of our ability to maintain the rate of improvement in our standard of living. Over the past fifteen years, the rate of productivity improvement has slowed and now virtually halted.

Government policies have been a major contributor to the slow down, but they can be an even more important contributor to the cure. The weight of regulation and the discouragement that results from high marginal tax burdens are key factors, but inflation itself also plays an important role. Reduced capital formation is the most important and visible but not the only channel by which this occurs.

The role of the tax system in reducing our past growth and its potential for improving the prospects for future growth deserves special attention. By reducing the incentives for investment and innovation, both by individual and by businesses, the tax system has been a key cause of our stagnation. Restoring the proper incentives will make a contribution to the long-run vitality of our economy.

The progressivity of the personal income tax system levies rising tax rates on additions to income that merely keep pace with inflation. Households therefore find that, even if their gross incomes rise with inflation, their after-tax, real income declines. Some households respond to these higher marginal tax burdens by reducing their work effort. "Bracket creep" also encourages taxpayers to seek out tax shelters; sources of income that offer higher after-tax returns but not necessarily higher before-tax returns than more productive sources, again contributing to economic inefficiency. In the last two decades, the congress has reduced personal income taxes seven times. Nevertheless, average effective tax rates are now about thirty percent higher than their mid-1960s low. Marginal tax rates have climbed in tandem with average rates.

III. SLOWING THE GROWTH OF GOVERNMENT SPENDING

The uncontrolled growth of government spending has been a primary cause of the sustained high rates of inflation experienced by the American economy. Perhaps of greater importance, the continued and apparently inexorable expansion of government has contributed to the widespread expectations of persisting and possibly higher rates of inflation in the future.

Thus, a central goal of the economic program is to reduce the rate at which government spending increases. In view of the seriousness of the inflationary pressure facing us, the proposed reductions in the federal budget for the coming fiscal year are the largest ever proposed.

The spending reduction plan will shift federal budget priorities, so that federal resources are spent for purposes that are truly the responsibility of the national government. The spending reductions will restrain federal involvement in areas that are properly left to state and local governments or to the private sector.

Carrying out this program of budget restraint will also halt and begin to reverse the tendency of government to take an ever-larger share of our economic resources. From a high of twenty-three percent of the gross national product in fiscal 1931, federal outlays are now scheduled

to decline to over twenty-one percent (21.85) in fiscal 1982 and to reach approximately nineteen percent beginning in 1984.

IV. REDUCING TAX BURDENS

An integral part of the comprehensive economic program is a set of tax proposals to improve the after tax, after inflation rewards to work, savings, and investment. Inflation inevitably increases the burden of taxes on individuals by pushing them into higher and higher marginal rates. In businesses, inflation makes the purchase of new equipment progressively more difficult by reducing the amount of cash flow available for capital investment. The tax package addresses both of these problems.

As taxpayers move into higher brackets, incentives to work, save, and invest are reduced, since each addition to income yields less after-taxes than before. In the late 1960s and early 1970s, Americans saved between seven to nine percent of personal, disposable income. In 1979 and 1980, the saving rate was between five to six percent. The combination of inflation and higher marginal tax rates is undoubtedly a major factor in the lower personal saving rate.

To correct these problems and to improve the after-tax return from work and from savings, the President is asking the congress to reduce the marginal tax rates for individuals across the board by ten percent per year for the next three

years, starting July 1, 1981. This would reduce rates to stages from a range of fourteen to seventeen percent to a range of ten to fifteen percent, effective January 1, 1984.

Since the late 1960s, the rate of net capital formation (excluding spending mandated to meet environmental standards) has fallen substantially. For the five years ending in 1979, increases in real-net business fixed capital averaged just over two percent of the nation's real-net national product, or one-half the rate for the latter part of the 1960s.

As a consequence, the President is asking the congress to provide for an accelerated cost-recovery system for machinery and equipment and certain structures.

V. PROVIDING REGULATORY RELIEF

The rapid growth in federal regulations has retarded economic growth and contributed to inflationary pressures. While there is widespread agreement on the legitimate role of government in protecting the environment, promoting health and safety, safeguarding workers and consumers, and guaranteeing equal opportunity, there is also growing realization that excessive regulation is a very significant factor in our current economic difficulties.

VI. CONTROLLING MONEY AND CREDIT

Monetary policy is the responsibility of the Federal Reserve system, an independent agency within the structure of the government. The administration will do nothing to undermine that independence. At the same time, the success in reducing inflation, increasing real income, and reducing unemployment will depend on effective interaction of monetary policy with other aspects of economic policy.

To achieve the goals of the administration's economic program, consistent monetary policy must be applied. Thus, it is expected that the rate of money and credit growth will be brought down to levels consistent with non-inflationary expansion of the economy.

If monetary policy is too expansive, then inflation during the years ahead will continue to accelerate, and the administration's economic program will be undermined. Inflationary psychology will intensify. Wages, prices, and interest rates will reflect the belief that inflation and destructive effects of inflation will continue.

By contrast, if monetary policy is unduly restrictive, a different set of problems arise, unnecessarily aggravating recession and unemployment. At times in the past, abruptly restrictive policies have prompted excessive reactions toward short-term money ease. As a result, frequent policy

changes can send confusing signals, and the additional uncertainty undermines long-term investment decisions and economic growth.

VII. A NEW BEGINNING FOR THE ECONOMY

This plan for national recovery represents a substantial break with past policy. The new policy is based on the premise that the people who make up the economy--workers, managers, savers, investors, buyers and sellers--do not need the government to make reasoned and intelligent decisions about how best to organize and run their own lives. They continually adapt to best fit the current environment. The most appropriate role for government economic policy is to provide a stable and unfettered environment in which the private individual can confidently plan and make appropriate decisions. The new recovery plan is designed to bring all aspects of government policy a greater sense of purpose and consistency.

TABLES FROM WHITE HOUSE REPORT
February 13, 1981

SHIFT IN BUDGET PRIORITIES

| | 1962 | 1981 | 1984 |
|-------------------------------|--------------|--------------|--------------|
| Dollar amounts (in billions): | 46.3 | 157.9 | 249.3 |
| DOD - Military | 26.2 | 293.3 | 313.0 |
| Safety net programs | 6.9 | 54.3 | 66.8 |
| Net interest | <u>26.9</u> | <u>193.2</u> | <u>142.0</u> |
| Total | <u>106.3</u> | <u>654.7</u> | <u>771.6</u> |
| Outlay shares (percent): | | | |
| DOD - Military | 43.8 | 24.1 | 32.4 |
| Safety net programs | 24.6 | 96.6 | 40.6 |
| Net interest | 6.4 | 9.3 | 8.6 |
| All other | <u>25.2</u> | <u>29.5</u> | <u>18.4</u> |
| Total | 100.0 | 100.0 | 100.0 |

The Federal Budget and GNP

| Fiscal year | Outlays as percent of GNP |
|-------------|------------------------------|
| 1981 | 23.0 |
| 1982 | 21.3 |
| 1983 | 20.4 |
| 1984 | 19.3 |
| 1985 | 19.2 |
| 1986 | 19.0 |

FEDERAL REVENUE AND OUTLAYS
(IN BILLION OF DOLLARS)

| Fiscal year | Revenues | Outlays | Deficit(-) or Surplus(+) |
|-------------|----------|---------|-----------------------------|
| 1981 | 600.2 | 654.7 | -54.5 |
| 1982 | 650.5 | 695.5 | -54.0 |
| 1983 | 710.1 | 733.1 | -23.0 |
| 1984 | 772.1 | 771.6 | +0.5 |
| 1985 | 851.0 | 844.0 | +7.0 |
| 1986 | 942.1 | 912.1 | +30.0 |

APPENDIX 3

VARIOUS ECONOMIC INDICATOR TABLES

Actual Federal Outlays Percent of GNP

| | |
|------|------|
| 1981 | 23.5 |
| 1982 | 24.5 |
| 1983 | 25.1 |
| 1984 | 23.8 |

Source: Budget of the United States Government Fiscal Year 1986, p. 9.58.

G1 Growth Rate (percent yearly change)

| | |
|------|-----|
| 1977 | 8.1 |
| 1978 | 8.3 |
| 1979 | 7.2 |
| 1980 | 6.6 |
| 1981 | 6.5 |
| 1982 | 8.5 |
| 1983 | 9.8 |
| 1984 | 5.8 |

Source: Economic Indicators, July 1985, Council of Economic Advisers.

ECONOMIC ASSUMPTIONS AND ACTUAL OUTCOMES

| Economic Variable | 1981 | 1982 | 1983 | 1984 |
|---|------|------|------|------|
| Real GNP (1972 dollars) | | | | |
| Administration | 1.1 | 4.2 | 5.0 | 4.5 |
| Actual | 2.5 | -2.1 | 3.7 | 6.3 |
| GNP Deflator (% change) | | | | |
| Administration | 9.9 | 8.3 | 7.0 | 6.0 |
| Actual | 9.6 | 6.0 | 3.8 | 3.8 |
| CPI (% change) | | | | |
| Administration | 11.1 | 8.3 | 6.2 | 5.5 |
| Actual | 8.9 | 3.9 | 3.8 | 4.0 |
| Unemployment Rate (%) | | | | |
| Administration | 7.3 | 7.2 | 6.6 | 6.4 |
| Actual | 7.5 | 9.5 | 9.5 | 7.4 |
| Three-Month Treasury Bills (% annual average) | | | | |
| Administration | 11.1 | 8.9 | 7.3 | 7.0 |
| Actual | 14.1 | 10.7 | 8.6 | 9.6 |

SOURCES: Executive Office of the President, Office of Management and Budget; Congressional Budget Office; Council of Economic Advisors, Economic Indicators, July 1985.

FEDERAL OUTLAYS PERCENT YEARLY CHANGE

| YEAR | OUTLAYS (MILLIONS) | PERCENT CHANGE |
|------|--------------------|----------------|
| 1977 | 400,203 | |
| 1978 | 456,729 | 12.1 |
| 1979 | 503,464 | 9.75 |
| 1980 | 590,920 | 17.37 |
| 1981 | 673,209 | 14.77 |
| 1982 | 745,706 | 9.95 |
| 1983 | 803,327 | 8.39 |
| 1984 | 851,731 | 5.37 |

SOURCE: BUDGET OF THE UNITED STATE GOVERNMENT FISCAL YEAR
1986

FEDERAL TAX REVENUE (BILLIONS)

| YEAR | PERSONAL | CORPORATE |
|------|----------|-----------|
| 1980 | 244.1 | 64.6 |
| 1981 | 235.9 | 61.1 |
| 1982 | 297.7 | 49.2 |
| 1983 | 233.9 | 37.0 |
| 1984 | 296.2 | 56.9 |

SOURCES: BUDGET OF THE UNITED STATES GOVERNMENT FISCAL
YEARS 1982, 1983, 1984, 1985, 1986.

EMPLOYMENT LEVEL

TOTAL NONINSTITUTIONAL POPULATION

| YEAR | NUMBER EMPLOYED (THOUSANDS) |
|------|-----------------------------|
| 1980 | 100,901 |
| 1981 | 102,042 |
| 1982 | 101,194 |
| 1983 | 102,510 |

SOURCE: HANDBOOK OF LABOR STATISTICS, U. S. DEPARTMENT OF
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